Patent Claims

1. A method for resource allocation in a radio communications system, in which
the resources are formed by channels in the radio interface between base stations (BS) and subscriber stations (MS),
with regard to resource allocation, a number of base stations (BS) which are controlled by a first and a second base station controller (RNC), which belong to the same radio network,
the base stations (BS) each provide a limited number of channels which can be allocated to connections from or to different subscriber stations (BS),
characterized
in that some of the channels which can be provided by one of the base stations (BS) are used for monitoring the first base station controller (RNC) associated with them, and are reserved for channel allocation to subscriber stations by the second base station controller, so that the second base station controller can provide these particular channels without communication with the first base station controller.

2. The method as claimed in claim 1, characterized in that the number of channels which are assigned to the second base station controller (RNC) is matched cyclically to the traffic volume.

3. The method as claimed in one of the preceding claims, characterized in that the radio interface uses TDMA-based transmission, and further particular channels are reserved for limited use by the first base station controller (RNC), which can be used only after prior channel measurements.

4. The method as claimed in claim 3, characterized in that resources which are as orthogonal as possible are allocated to the various base stations (BS) within the supply area of a base station controller (RNC).

5. The method as claimed in one of claims 1 or 2, characterized in that the radio interface is based on FDD transmission, and the channels which are assigned to the second base station controller (RNC) are used for carrying out a soft handover.

6. The method as claimed in one of the preceding claims, characterized in that the allocation of the channels is adapted dynamically from timeslot to timeslot.

7. The method as claimed in one of the preceding claims, characterized in that only one entity for resource monitoring (MAC-d) is set up in the base station controller (RNC) for each subscriber station (MS).

8. The method as claimed in claim 7, characterized in that the subscriber-related entities (MAC-d) of the individual subscriber stations (MS) interact in the base station controller (RNC).

9. The method as claimed in one of claims 7 or 8, characterized in that the subscriber stations (MS) are allocated priorities, and for a channel which is allocated to a number of subscriber stations (MS), the priority governs the use of the channel.

10. The method as claimed in claim 9, characterized in that, when priorities are equal, dynamic prioritization or a time sequence of a resource request governs the use of the channel.

11. The method as claimed in one of the preceding claims, characterized in that a resource table (SCT) is set up, which indicates for the channels which priority is allocated to which subscriber stations (MS) for that channel, and which subscriber station (MS) is currently using that channel.

12. The method as claimed in claims 7 and 11, characterized in that the resource table (SCT) is radio-cell-specific, and an entity requests channels from the resource tables (SCT) for the radio cells which are involved in the connection.

13. The method as claimed in one of the preceding claims, characterized in that a process of handing over control of a connection to a subscriber station (MS) to a further base station controller (RNC) is initiated only when the previously responsible base station controller (RNC) cannot allocate any channels in the necessary radio cell.

14. A radio communications system,
having base stations (BS) and subscriber stations (MS) which are connected to one another via a radio interface,

- in which case resources for the radio interface are formed by channels,
- in which case the base stations (BS) can each provide a limited number of channels, which can be allocated to connections from or to different subscriber stations (BS),

having a first and a second base station controller (RNC) which each control the resource allocation for a number of base stations (BS), and belong to the same radio network,
characterized by
control devices (RRC) which are allocated to the base station controllers (RNC) and reserve some of the channels of a base station (BS), which is allocated to the first base station controller, for channel

allocation to subscriber stations by the second base station controller (RNC), which can decide on the allocation of the channels to subscriber stations (MS) without any communication with the first base station controller.

Figure captions:

1 Prior art
2 Channels
3 Radio cell monitored by RNC1
4 Radio cell monitored by RNC2
5 Radio cell monitored by RNC3
6 Legend:
DPC: dedicated channels
SPC: shared channels
7 SPC for RNC1
8 SPC for RNC2
9 SPC for RNC3
10 To MS1 (only DPC)
11 CPC: common channels
12 DPC and SPC for own MS
13 DPC and SPC for MS for other RNCs
14 DPC for unrestricted use of the RNC of the radio cell
15 DPC for restricted use of the RNC of the radio cell
16a not used
16b for non-orthogonal resources
17 MAC-d for MS1
18 MAC-d for MS2
19 MAC-d for MSm
20 SCT for cell 1 (SRNC)
21 SCT for cell 2 (SRNC)
22 SCT for cell n (DRNC)
23 used
24 SCT for cell 1
25 SCT for cell 2
26 Reserve SPCs
27 L1 of cell 1
28 L1 of cell 2